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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,835	10/22/2003	Susumu Ninomiya	016910-0501	4242

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EXAMINER

MORILLO, JANEL COMBS

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,835

Applicant(s)

NINOMIYA, SUSUMU

Examiner

Janelle Combs-Morillo

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 13-28, 32 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 29-31, 33-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 102203, 042804.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of group I in the reply filed on 4/21/06 is acknowledged.
2. In the written restriction mailed March 22, 2006, the claims belonging to the group I (method) and group II (apparatus) had a typo. Clearly, group II apparatus claims are held to be claims 13-28, 32, 36. Group I method claims are held to be claims 1-12, 29-31, and 33-35.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 line 2 mentions "after the cooling by water" which lacks antecedent basis.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-4, 6, 10-11, 29-31, <sup>33 and 34 are</sup> ~~are~~ rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kemper (US 4,030,947).

Concerning process claims 1 and 29, Kemper teaches a method of heat treating an aluminum alloy (column 4 line 45) by solution heat treating in a fluid media such as molten salt (column 3 lines 17-18, 30, 65), followed by quenching in a fluid quenching media, such as molten salt (column 3 lines 35-36, 65) optionally diluted with water (Table 1) and maintained at a temperature of 350°F (177°C, column 6 line 67), followed by artificially aging at 250°F (column 7 line 23). Kemper does not mention the quenching/cooling temperature suppresses growth of a GP Zone while in the solid solution state; however because said temperature is substantially similar to the temperature mentioned in the instant specification to effectively suppress a GP Zone (<200 °C, see spec. at p. 6), said GP Zones are held to be inherently suppressed.

Concerning product by process claims 33 and 34, as stated above, Kemper teaches a product by process substantially as presently claimed.

With respect to suppression of a GP zone, once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re

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Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997). Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's process, or product-by-process. Therefore, it is held that the prior art anticipates, or in the alternative, has created a prima facie case of obviousness of the presently claimed invention.

Concerning claim 2, as stated above, said process is performed on an aluminum alloy.

Concerning claims 3 and 6, though Kemper does not mention the grating defect or the miniaturization of the crystal structure, because Kemper teaches a substantially identical process as presently claimed, then said grating defect and miniaturization of the crystal structure are held to be inherently present.

Concerning claim 4, 10, 11, as stated above, Kemper teaches solution heat treatment of said alloy followed by aging.

Concerning claims 30 and 31, as stated above, Kemper teaches cooling in liquid sodium.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemper.

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Kemper is discussed in paragraphs above. Concerning claims 5, 35, Kemper teaches said molten salt media can be sodium nitrate, potassium nitrate, mixtures of said salts (column 3 lines 65-67) at typically temperatures of 750-1000°F (column 2 lines 20-22, 399-538°C), which substantially overlaps the presently claimed 1<sup>st</sup> temperature minimum.

9. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemper in view of “Aluminum and Aluminum Alloys” p 321.

Kemper is discussed in paragraphs above.

Concerning claims 7-10, though Kemper does not specify cleaning or further cooling with water (after cooling down to 350°F in said salt bath), however, “Aluminum and Aluminum Alloys” teaches at p 321 that salt baths/furnaces are efficient at heating and cooling, but salt residue must be rinsed with water after quenching in order to prevent corrosion (p 321, 3<sup>rd</sup> column). It would have been obvious to one of ordinary skill in the art to rinse the salt residue after cooling down to 350°F in said salt bath, with water (which would cool said higher temperature alloy) in order to prevent corrosion, substantially as taught by “Aluminum and Aluminum Alloys”.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kemper in view of Reimann (US 3,947,297).

Kemper does not mention rolling after aging. However, Reimann teaches that cold working by rolling (column 2 line 22) after aging achieves excellent mechanical properties (Table II). It would have been obvious to one of ordinary skill in the art to roll the alloy taught by Kemper after aging, because Reimann teaches that said rolling after aging achieves excellent mechanical properties (Table II).

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***Conclusion***


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM

July 6, 2006

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1700